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ICT IN TEACHING AND LEARNING: COMBINING THEORY WITH EXPERIENCE IN ALBANIAN UNIVERSITIES

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Abstract**:** The ever increasing use of ICT in higher education institutions is a part of the social and economic changes affecting all countries and regions. Governments and companies see universities as the engines of these changes, and ICT as a tool for knowledge dissemination anywhere and anytime. A better integration of ICT in the education environment would not only help students and teachers, but would also contribute to the development of international networks of educational institutions.

The paper evaluates the use of ICT in the educational process in higher education in Albania and the challenges that these institutions face in the process of integrating ICT into teaching practice in order to develop the whole country.

The proposed conclusions and recommendations make a valid topic for further research.

Keywords: ICT, learning, teaching, higher education.

Introduction

The twenty-first century has confronted people with the revolution caused by the rapid development of Information and Communication Technology (ICT). As in all areas of life, ICT has shaken traditional teaching and learning methods which are now facing new challenges in the educational community. A profound change that has affected academic areas must be considered considering opportunities that new technologies have opened. Integration of new technologies in education, as an essential condition

in the process of teaching and learning, will inevitably require teachers to change their approach to teaching and education or management issues, all situated in a rich technological environment.

Traditionally, the role of education was to prepare students for life and work in order to meet the needs of society they belong to. To be able to respond to the increasing world economy globalization and more sophisticated technologies in the work environment, higher education institutions need to modify the content and scope of their instruction, as well as the way it is applied (Dolence & Norris, 1995; Ehrmann, 1995). In this context, increasing pressure is exerted on higher education institutions, and governments, workers and students clearly expect them to have an effective response to the challenges ahead.

This ongoing transformation, brought by the digital era, increases the need to incorporate technologies in the education sector in our country. Speaking of tertiary education, it is obvious that the presence of ICT is still not at the required level and calls for efforts from all stakeholders and relevant authorities. This paper attempts to present a general analysis of the situation, the use of ICT in the process of teaching and learning in higher education institutions in Albania, and the strategies developed by these institutions regarding the use of technology, as well as the factors influencing their further integration.

Leaving aside the impact of the use of ICT in research or administration and management, the paper is focused on e-learning, applied to improve the process of teaching and learning in tertiary education. E-learning has become increasingly important for higher education institutions. A variety of developed tools caused significant changes in these institutions, especially to support education. There is no general definition of e-learning, which would be widely accepted[1]. In this paper we accept the definition proposed by OECD (2005): e-Learning refers to "the use of ICT to improve

[1] Many definitions refer to the following: e-learning implies "an entire course and all interactions between faculty and students to be online" (Obliger & Hawkins, 2005);e-learning is "computer-based training distributed through intranets and the Internet"(Dublin, 2003);e-learning is "giving lectures, training or educational programs via electronic means, e-learning involves the use of computer or electronic devices (eg. mobile phone) to provide learning materials, training, or educational"(Stockley, 2005); e-learning is "a term that covers a wide array of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms and digital collaboration. It includes delivery of materials via the internet, intranet / ekstranet" (Singh, 2003); (LAN / WAN), audio and videotapes, satellite broadcasting, interactive TV- CD-ROM, and more broader "(Singh, 2003); e-learning is "distance education or distributed education through the Web" (Zemsky & Massy, 2004); e-learning is "the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to tools and services as well as to establish exchanges and cooperation" (EC, 2001); e-learning is "the use of digital technologies to support and give a part or all teaching processes - learning for a particular unit of study" (Galagher,2003); e-learning is "any process of learning that uses ICT" (HEFCE, 2005).

and /or support learning in tertiary education". Unlike the definitions that focus only on online courses, this one is broader and refers to the technology that supports education.

3. Methodology

3. 1 Participants

The survey was conducted in eleven public universities in Albania during the academic year 2009/2010. There were 767 participants (416 students and 351 members of teaching staff) who filled in a questionnaire. The items in the questionnaire referred to the use of ICT in teaching and learning in higher education institutions. The sample was random and representative of the entire population. For procedural convenience, sample selection was made after a preliminary stratification of universities.

3.2. Instrument

A questionnaire was constructed in order to collect data about the perception of the implementation of ICT in higher education institutions. Descriptive analysis of the obtained data provides information about the most important elements affecting the implementation of ICT in education. The following factors were included in the questionnaire items and for the following reasons:

The number of computers at a university/faculty is a crucial factor in Information and Communication Technology implementation. Increased level of ICT integration, among other, implies the use of computers in teaching process (e.g. using special software to illustrate/explain the subject of a lecture/seminar) and to assist learning.

The Internet accessibility encourages other forms of communication between stakeholders in the educational process by removing barriers of time and place (lecturers can make some learning materials available after the lecture has finished, and students can obtain those materials even if they did not attend the lecture).

Communication and Information Technology tools used during instruction are helpful in introducing new forms that improve teaching and learning process.

The purpose of e-learning. Recognition and clear identification of concrete goals of its use in teaching and learning process leads to the increased level of integration of ICT in this process. On the other hand, ignorance towards the purposes of e-learning in education can have a negative impact on the degree of ICT implementation in this process.

Lack of competence in using ICT directly affects motivation of lecturers and students to support the process of integrating ICT in education.

Reasons why implementation of ICT in education is incomplete are negative factors that hinder the process of integration of ICT in public tertiary education institutions.

4. Results

4.1. Quantity of computers and other ICT tools at the faculties

In general, a large portion of respondents (about 45% of lecturers and students) think that there is an insufficient quantity of computers at faculties. Note that a half of leaders believe that there are enough computers at faculties (Figure 4-1). This difference in perception is indicative of opposite perspectives. Namely, leaders do not see the need to invest more in technological development.

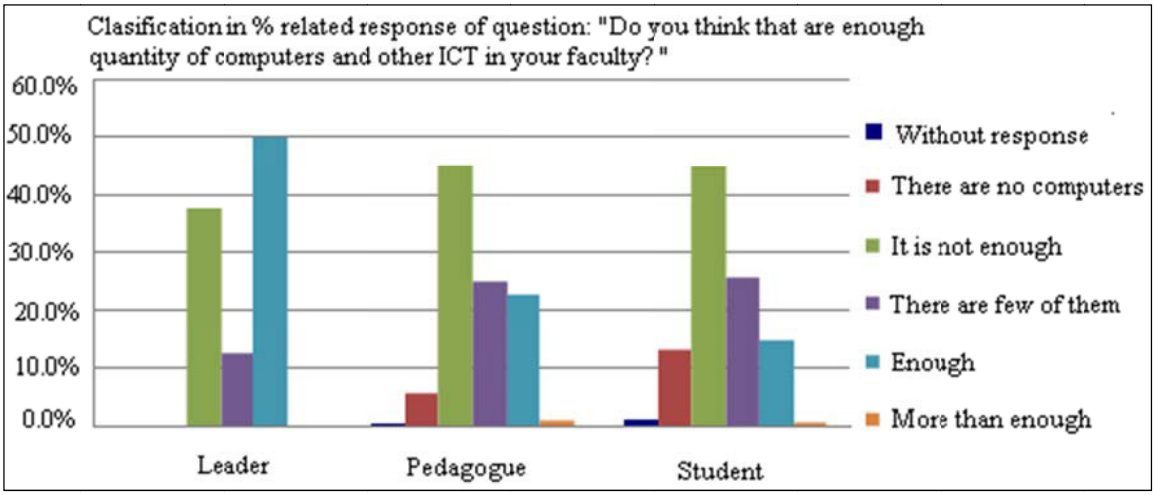

Figure 4.1.: "Do you think that there are enough computers and other ICT tools at your faculty?"

4.2. Internet access at the universities

Full Internet access at our universities has been established through the Internet Service Providers (ISP), such as private: Abissnet, Abcom, Albtelecom, Alfa, Cable, It Tel, Ma-Isp, Primo, Pronet, etc. and dedicated lines, fiber-optic lines, satellite dishes or others ways. The project of Academic Network Albania[2] will secure access to networks such

[2] Academic Network Albania's (ANA) project on the **"Creation of an Inter-University Service Center and a Telematic Network"** aims at improving and strengthening of the Albanian University

as GEANT and GARR 2. Today the problem arises of how effectively it is used by lecturers and especially by the great mass of students.

4.3. Usage of ICT in teaching

By observing the responses of three groups of participants (Figure 4.2.), it is evident that ICT is mostly used for projecting presentations, for e-mails and upload/download of teaching materials.

Figure 4.2. "Which of the technological tools and methods are used in your educational institution?"

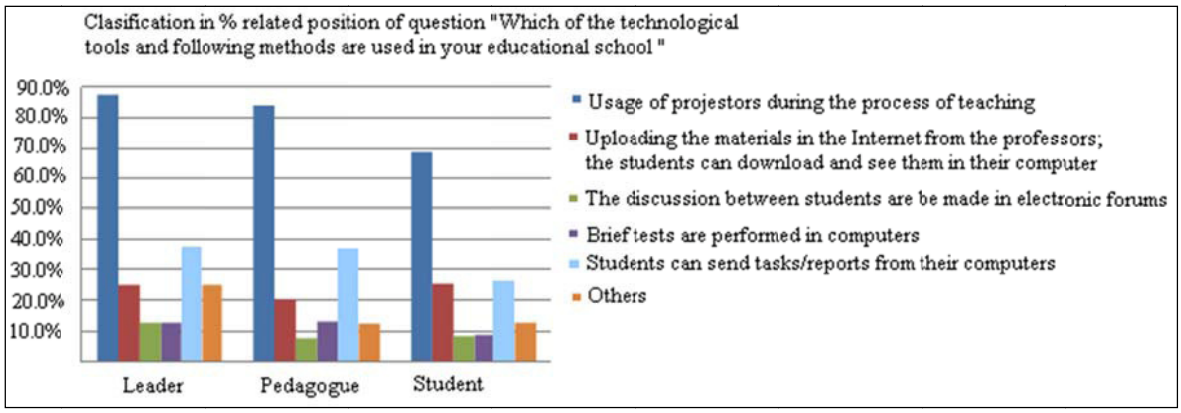

Figure 4.3. "In your opinion, what is the purpose of using ICT in education?"

4.4. Purpose of ICT in teaching

Figure 4.3. indicates that the most frequent answers to the question: "What is the purpose of using ICT in education?" are:

To provide effective education to students;
To adapt to different formats of education;
To provide a quality education;
To provide efficient education.

In the group of leaders and academics, about 23% share the opinion that:

Use of ICT in education will rationalize it and the administration;
It will attract new students;
It would reduce costs.

System as the highest level teaching source in the country and at promoting scientific research. The Inter-University Center will offer software services to both public universities and research institutes, and will manage the Albanian Academic Network programs. ANA will play a crucial role in giving opportunities for the participation of professors and researchers from the Albanian academic world to the research and development activities of the European Union.

4. 5. Problems of using ICT

Regarding the question about problems of using ICT in education, leadership evidently thinks that the biggest problem is the lack of advanced ICT skills among academic staff needed in teaching (75%). They also believe that there is a lack of basic infrastructure and a lack of consensus within an institution on how the problems encountered while using ICT should be dealt with (62%). Also, academics think that they are not asked about their experiences (50%). Academics also find infrastructure to be a problem when using ICT in education (43%). On the other hand, students think that the greatest problem is the lack of skills of academic staff (33%).

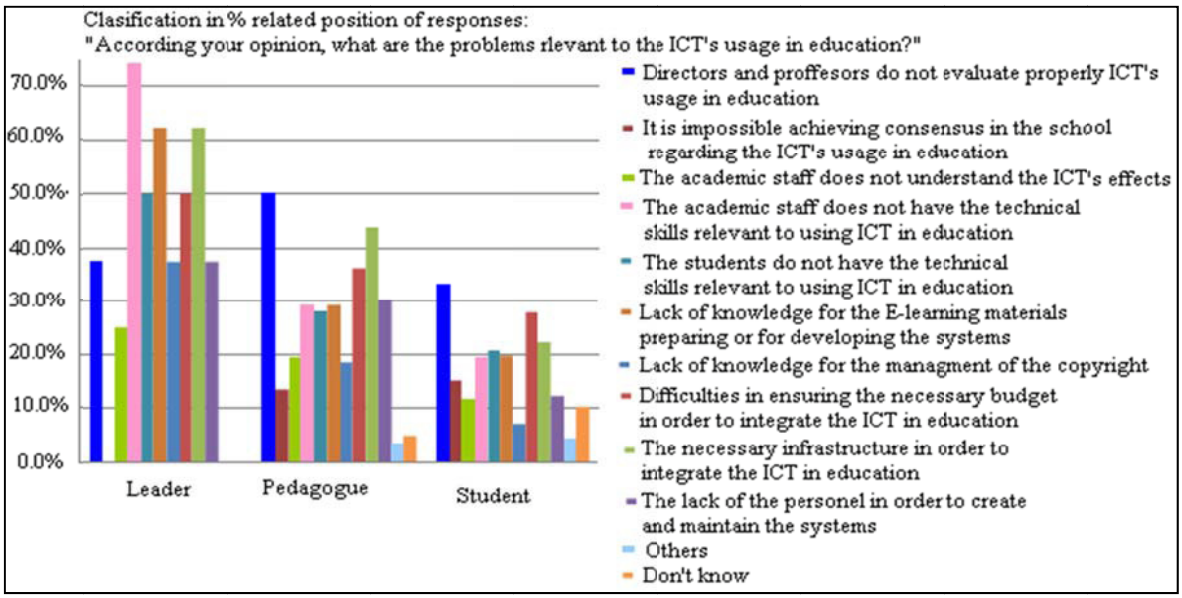

Figure 4.4. "In your opinion, what are the problems relevant to the ICT usage in education"

It should be taken into account that the field of e-pedagogy is relatively new and that teachers feel ill-equipped for implementing new technologies into their teaching methods. All teachers, regardless of their teaching experience and professional profile should have some practical training.

Reasons for incomplete implementation of ICT in education

There are several detected reasons why ICT was not completely implemented in education. One of those reasons is the lack of necessary infrastructure and insufficient budget to establish computer labs. The leaders mostly feel that the lack of interest in e-learning is a reason for incomplete implementation of ICT in education (Figure 4.5.).

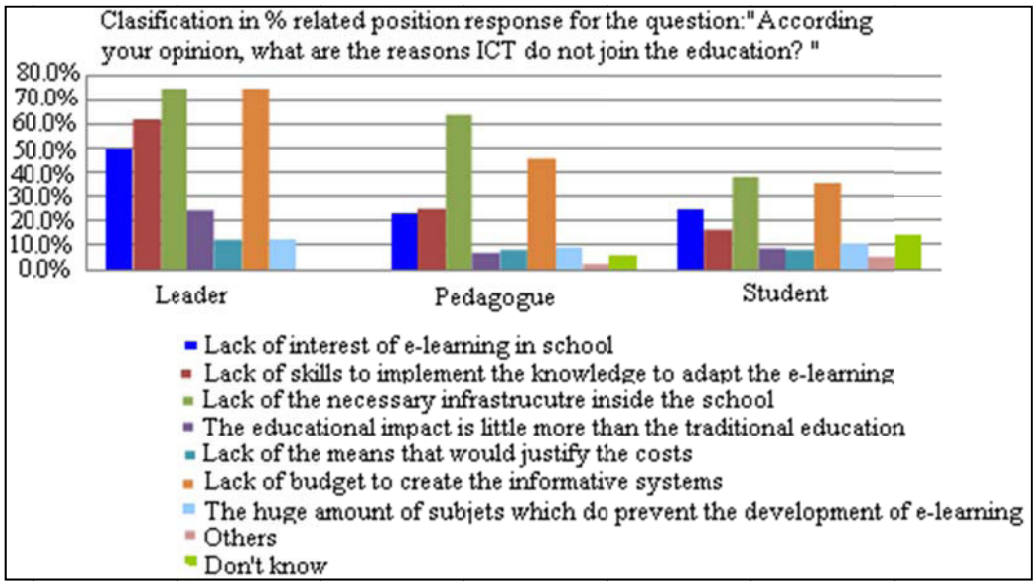

Figure 4-5. "In your opinion, what are the reasons ICT is not implemented in education?"

The degree of implementation of ICT in education environment is assessed by the three groups of participants. A large part of respondents, 50% of managers, about 45% of academics and about 35% of students think that the implementation of ICT in teaching and learning has been partly completed. About 30% of academics and students think that the implementation is realized to a small degree. Only 10% of respondents think that the integration of ICT at universities has been on a large scale.

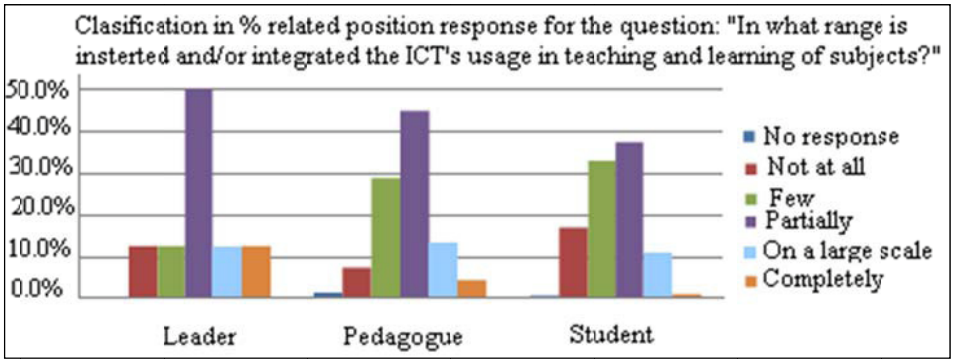

Figure 4-6 "To what degree has ICT been implemented in teaching and learning?"

5. Conclusions

The presented analysis reveals that public tertiary education institutions in Albania are still at the pre-initiative and initiative stage which is characterized by the emergence of ICT in teaching and learning. This conclusion is supported by other studies such as Collis & Moonen 2001, which shows that the process of development of ICT in educational institutions consists of three main steps: submission, integration, and transformation. These steps are consistent with the characteristics of the institutions of public higher education in Albania. Therefore, we will draw some conclusions and recommendations:

5.1. E-learning should be considered important

In public universities in Albania, e-learning and ICT implementation in education is considered to be a very important process and is seen as a means of ensuring educational equality. Students and teachers see e-learning as a tool for more effective education and creation of opportunities for individualized instruction in accordance with individual needs of students, which helps to establish individual approach.

5.1. The lack of ICT support staff

A problem that is observed in public universities is the lack of structures within the organizational units of these institutions intended for the maintenance and development of ICT infrastructures. Technical support staff should be responsible for assisting academic staff while using technology. About 60% of ICT users in the Albanian public universities face problems in using technology. The presence of support staff would help to reduce these problems and naturally will stimulate the use as well as the implementation of ICT in public institutions of higher education. It must be mentioned that there have been some special initiatives by universities for creation of computer services (sometimes conceived as the IT departments in organizations). We believe that the lack of support staff lead to the low level of stabilization of development strategies of institutions, separately or as a part of e-learning strategies. The institutions' policies regarding Learning Management System (LMS), access to computers and networks of faculties or universities must be known to academics and students.

5.3. Inadequate computer facilities

Analysis of data collected during the study reveals another disadvantage of the Albanian public universities: lack of facilities where computers can be used. The results suggest that students are more aware of this issue than the university leaders. We think that the computer facility issues are related to two

main problems: first, there is a lack of facilities at universities where students could have an easy computer access; and second, the institutions (leaders) do not recognise the need for ICT investments because they believe that students do not have the necessary skills to use advanced technology.

Internet cafes may represent an effective solution for attracting students, especially if they are situated within university buildings. The solutions proposed as a part of two governmental projects "Digital Albania[3]" and "Albania is a developed country[4]" that should improve the Internet accessibility, have been trying to reach all citizens on the regional level. Such free centres that offer free Internet will be advantageous for students as well. There are 550 free internet centres established by "Posta Shqiptare" (Albanian Post[5]) during the last year. Additional 1200 Internet centres are to be opened during 2012[6].

6. Recommendations

6.1. Establishment of mid-term strategies for development and implementation of ICT in education

Even though the integration of ICT in teaching is considered important by all stakeholders, the public universities still do not have clear long-term plans. In these circumstances it is necessary to design university level mid-term strategies for implementation of ICT in teaching.

6.2. Increased investments in further development of ICT infrastructure at public universities

Developing the ICT implementation process in education will undoubtedly require further development of ICT infrastructure at universities. These developments call for a revision of university budgets to ensure the necessary investments. It should be noted that in the recent years there has been an unusually large increase in the number of students at these universities and that this has had its effects. Unfortunately, the governmental bodies have failed to increase the budget according to the increase in the number of students. Despite some significant investments, there is still space for improvements.

[3] http://www.km.gov.al
[4] http://www.km.gov.al
[5] http://www.postashqiptare.al
[6] http://www.km.gov.al

6.3. Curricula revision to increase the ICT implementation in the education process

A revision of university curricula that would aim at the increased use of ICT in teaching and learning processes is a necessary process in the development of e-learning. This review should focus not only on the curricula of particular subjects but also on the conditions for new curricula implementation, e.g. training of teaching staff on ICT.

6.4. Reorganization of the universities by creating the necessary support structures

All initiatives and developments in the infrastructure of Information and Communication Technology at universities cannot be effective if they are not continuous over time. Besides, in case of the aforementioned investments, a key factor in this regard is the creation of support structures within the university organization that will guarantee the maintenance and further development of ICT infrastructure. These structures may include support staff or can be of mixed structure (support staff and academic staff) in accord with the current sustainable models in western universities.

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ICT U POUČAVANJU I UČENJU: POVEZIVANJE TEORIJE S ISKUSTVIMA ALBANSKIH SVEUČILIŠTA

Sažetak Sve zastupljenija primjena ICT u visokoškolskim ustanovama dio je društvenih i gospodarskih promjena koje zahvaćaju sve države i regije. Vlada i tvrtke doživljavaju sveučilišta kao pokretače tih promjena, a ICT kao prikladno sredstvo širenja znanja uvijek i svugdje. Uvođenje ICT u obrazovni kontekst pomoglo bi, ne samo nastavnicima i studentima da proširuju svoje znanje, već bi također doprinjelo umrežavanju obrazovnih institucija na međunarodnoj razini.

U radu se vrjednuje upotreba ICT u sveučilišnoj nastavi u Albaniji, kao i problemi s kojima se institucije susreću u svome nastojanju da integriraju ICT u škole, što bi trebalo dovesti do napretka u razvoju čitave države.

Ključne riječi: ICT, učenje, poučavanje, visoko obrazovanje.

ICT IM UNTERRICHT UND BEIM LERNEN: VERBINDUNG VON THEORIE MIT ERFAHRUNGEN AN ALBANISCHEN UNIVERSITÄTEN

Die zunehmende Nutzung von ICT im Bereich der Hochschulbildung ist ein Teil der gesellschaftlichen und wirtschaftlichen Veränderungen, die alle Länder und Regionen umfassen. Die Regierung und Unternehmen nehmen die Universitäten als Antreiber solcher Veränderungen wahr und die ICT als ein geeignetes Vehikel für die Wissensverbreitung jederzeit und überall. Die Einführung von ICT im pädagogischen Kontext würde nicht nur den Lehrern und den Studenten bei ihrer Wissenserweiterung helfen, sondern es würde auch zur Vernetzung von Bildungseinrichtungen auf internationaler Ebene beitragen. Im Beitrag wird der Einsatz von ICT im Hochschulunterricht in Albanien bewertet, sowie die Probleme, mit denen die Institutionen bei ihren Bemühungen um die Integration von ICT in den Schulen konfrontiert werden, was wiederum zum Fortschritt in der Entwicklung des ganzen Landes führen sollte.

Schlüsselbegriffe: ICT, Lernen, Unterrichten, Hochschulbildung